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THE UNIVERSITY OF ALBERTA

EMPLOYABILITY OF VOCATIONAL AND GENERAL
HIGH SCHOOL DIPLOMA GRADUATES

BY

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A THESIS

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ABSTRACT

The purpose of this study is to compare the employability of Vocational and General High School graduates on the basis of:

1. the time required to find the first full time employment.
2. employment security since graduation.

The undersigned certify that they have read and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Employability of Vocational and General High School Diploma Graduates" submitted by William Nicholas Pura in partial fulfilment of the requirements for the degree of Master of Education.

The sample consisted of forty graduates of an urban

ABSTRACT

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1. the time required to find the first full time employment.
2. employment security since graduation.
3. the initial and terminal earnings on the jobs held.
4. the number of promotions within the job.
5. the relatedness of employment to the high school program studied.
6. the method used to find employment.
7. the relative satisfaction of employment held.

The sample consisted of forty graduates of an urban composite high school. Twenty of these were selected on a random basis from the general diploma program and twenty were selected on a stratified random basis from the vocational program.

The study, which was conducted one year following the students' graduation, used the interview method for the collection of data.

An analysis of the data collected permitted the following conclusions:

There was no significant difference between graduates of the vocational program and graduates of the general diploma program in terms of finding employment, remaining employed, wages earned or the method used to find employment.

Differences between the two groups did appear, however,

in respect to the number of promotions, in the relatedness of employment to the studies and in the relative job satisfaction. The vocational graduates were significantly higher on all three variables.

ACKNOWLEDGEMENTS

To make this study possible, the author is deeply indebted to the many participants who so generously contributed their time and effort.

To my supervisor, Associate Professor J.E. Gallagher, I would like to express my sincere gratitude and appreciation for his continual encouragement and advice.

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Finally, like the completion of the "Unfinished Symphony" which only she will understand, I dedicate this thesis to my wife Anne.

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CHAPTER I

THE PROBLEM

I. INTRODUCTION

It is well recognized that one of the most important challenges facing education in Canada today is to provide an educational system which acknowledges the existence of individual differences among our youth and which creates adequate programs and facilities to meet these differences. It is also recognized that the task of educating today's youth in a dynamically changing society for yet an unknown future is not a simple one.

Historically, man has developed his educational system and preparation for a role in a stable society. Changes which occurred took generations to evolve. In the last two decades our society has changed raidly and drastically. Writers such as Barlow, Borow and Ford intimated that the application of science and technology to the industrial, business and commercial institutions has created a revolution in our social, economic and educational institutions. Some of the symptoms that graphically illustrate these changes are the manpower shortages in skilled and technical occupations, the high unemployment during peaks of prosperity and the difficulty youth experience in entering the world of work.

Becoming alarmed at Canada's decreased exports in

the world markets and the decline of a skilled work force, the Federal Government commissioned Dr. W.D. Wood of Queen's University to establish a committee to study the manpower and the employment situation. The far-reaching plan which emerged from Wood's study focused on more education--a massive expansion in teaching and training Canadians for the kinds of jobs being created by the technological revolution.

"Although the demand for trained manpower is rising sharply, the supply can only be increased slowly" said Dr. Wood.

It takes many years of education and training to develop a highly skilled professional and technical worker.¹

It appeared quite obvious from the report that was presented on manpower that the theme was "more education." Education, by Constitution (The British North America Act 1867) was a Provincial domain over which the Federal Government had no jurisdiction. However, when the new Technical and Vocational Training Assistance Act was passed in December 20, 1960,² provision was made for indirect assistance. The Act provided for the sharing of costs between the Federal and Provincial Governments for a "crash" program to build and equip vocational high schools, technical institutes and other training and retraining centres for the purpose of increasing and improving Canada's skilled manpower force.

¹ A Report of the Select Committee On Manpower Training, Province of Ontario, February, 1963, p.34.

² Canada, Department of Labour, Annual Report, Ottawa, The Queen's Printer, 1961, p. 76.

The Capital expenditures under the 1960 Technical and Vocational Training Act have given tremendous impetus to the development of educational and training facilities in Canada.

By March, 1967, six years after the passing of the Act, Federal approval has been given for new construction and additions to 882 technical and vocational high schools, institutes and trade schools across Canada. Costing an estimated total of \$1,476,000,000.00, the new schools and additions had a planned accommodation for 439,952 students.³

By March 31, 1967, the Province of Alberta had 80 projects approved at a total cost of \$130,000,000.00 providing 35,142 student stations.⁴

The large expenditure of funds at a time of increasing tax burdens has led to such queries as: "Are Vocational Education programs into which we have poured millions of dollars and untold energy, an answer to a realistic preparation for employment needs of the future?"⁵

"Will, in fact, students have saleable skills upon graduation from these vocational high schools?"⁶

³ Canada Year Book, Ottawa, Queen's Printer, 1968. p. 364.

⁴ Technical and Vocational Education in Canada, Vol. 2, No. 3, 1968. Technical & Vocational Training Branch Dept. of Labour, Ottawa, p. 15.

⁵ Dr. H.T. Coutts, Directions and Dilemmas, An Address Delivered at the Canadian Education Association Short Course, Banff, Alberta, May 19, 1964.

⁶ Technical and Vocational Training, Canadian Business Magazine, May, 1962, p. 37.

With the curtailment of the Federal financial support for vocational programs after March 31, 1967 and with the spiralling costs of education across the country, there is an ever-increasing need to conduct evaluation of the vocational programs in order to determine whether expenditures that have been made in this area of education to date should be justifiably increased, maintained or curtailed.

It was this need for evaluation in attempting to find some answers to the foregoing questions that prompted the writer to undertake this study.

II STATEMENT OF THE PROBLEM

This study was undertaken to compare the employability of vocational and general high school diploma graduates. The general hypothesis of the study was that there is no difference in employability between vocational graduates and general high school diploma graduates.

More specifically, the comparison was made on the basis of:

1. the time required to find the first full time employment.
2. employment security since graduation.
3. the initial and terminal earning on the jobs held.
4. the number of promotions within the job.
5. the relatedness of employment to the high school program studied.

6. the method used to find employment.
7. the relative satisfaction of employment held.

III THE NULL HYPOTHESES

Seven null hypotheses were developed and tested in this study. The critical level of significance for all calculations was set a priori at .05. The seven null hypotheses were as follows:

Null Hypothesis Number One

There is no significant difference between the vocational and general graduates in the time required for obtaining first full time employment.

Null Hypothesis Number Two

There is no significant difference between the vocational and general graduates in the number and duration of jobs held since graduation.

Null Hypothesis Number Three

There is no significant difference between the vocational and general graduates in the initial and terminal gross hourly earnings on the jobs held.

Null Hypothesis Number Four

There is no significant difference between the vocational and general graduates in the number of promotions within the jobs held since graduation.

Null Hypothesis Number Five

There is no significant difference between the vocational and general graduates in the relatedness of employment held since graduation to the program studied in high school.

Null Hypothesis Number Six

There is no significant difference between the vocational and general graduates in the methods used to find employment.

Null Hypothesis Number Seven

There is no significant difference between the vocational and general graduates in the relative satisfaction of employment held since graduation.

IV OPERATIONAL DEFINITIONS

Composite High School. For the purposes of this study a Composite High School was defined as a high school which offers a wide variety of programs to accomodate students of varying abilities and interests.

High School Diploma. The High School Diploma in this study referred to the official document issued by the Department of Education certifying that the holder had completed a prescribed program of instruction at the high school level which included:

- (a) English: at least 15 credits.
- (b) Social Studies: at least 10 credits.

- (c) Physical Education: at least 2 credits.
- (d) Other credits to make a total of 100 credits including:
 - i) minimum of 5 credits in Mathematics.
 - ii) minimum of 5 credits in Science.
 - iii) credits in two Grade XII subjects in addition to English 30, 36, or 33. (An Approved Course offered for 15 credits or more in Grade XII is accepted as an equivalent of two Grade XII courses).⁷

High School Credit. In this study one credit represented 40 minutes minimum instruction time per week.⁸

General Program. For the purpose of this study a general program referred to a high school diploma program in which the major selected by the student did not constitute more than 15 credits.

Vocational Program. For the purpose of this study, a vocational program referred to Program One of the nine programs under the 1960 Technical and Vocational Training Assistance Act. It included "any courses or programs of the regular secondary school, technical, vocational, or composite high school where the full-time courses have a minimum of 50 percent of the school time spent in instruction preparing

⁷ Department of Education, Province of Alberta, Senior High School Handbook, 1968-69, (Edmonton: Queen's Printer for Alberta), p. 21.

⁸ Department of Education, Province of Alberta, Senior High School Handbook, 1968-69, (Edmonton: Queen's Printer for Alberta), p. 7.

for an occupation."⁹ The major selected constituted no less than 35 credits.

Vocational Course. A vocational course in this study referred to the vocational course series designated as 12, 22 and 32, prepared by the Department of Education and are taught for 5, 15 and 20 credits respectively.¹⁰

Vocational Graduate. A vocational graduate for the purpose of this study was defined as a student who had successfully fulfilled the requirements for a High School Diploma with a vocational course as a major. The major constituted no less than 35 high school credits.

General Graduate. A general graduate for the purpose of this study was defined as a student who had successfully fulfilled the requirements for a High School Diploma with a major of no more than 15 high school credits.

Respondent. A respondent, as used in this study referred to the graduates who were selected to participate in the study.

Full Time Employment. For the purposes of this study, full time employment constituted continuous employment for a period of two months or more at a minimum rate of 35 hours per week.

⁹ Department of Labor, Vocational and Technical Training Assistance Act, (Ottawa: Queen's Printer & Controller of Stationery, 1961).

¹⁰ Department of Education, Province of Alberta, Senior High School Handbook, 1968-69, (Edmonton: Queen's Printer for Alberta), p. 17.

Employment Security. Employment security in this study referred to the period of time the graduate remained on each job.

Initial Earnings. The gross hourly wages received by the graduate upon beginning employment was defined as initial earnings.

Terminal Earnings. The gross hourly wage received by the graduate at the time of the study or upon termination of employment was defined as terminal earnings.

Promotion. In this study a promotion was considered to mean advancement to a higher rank, with increased responsibility within the job. The advancement from the first year to the second year of the apprenticeship program was considered a promotion.

Relatedness of Employment. Relatedness of employment was said to exist when subjects were found to be employed in areas of work for which they had been prepared in the high school program.

Relative Satisfaction of Employment. Relative Satisfaction of employment was defined as the graduate's response to the question, "Are you satisfied with your job?"

Employability. The term 'employability' encompasses multi-variable dimensions which are often difficult to define. For the purposes of this study, employability was defined in terms of the following variables:

- (a) the length of time required to obtain full time employment
- (b) the security of employment

- (c) the initial and terminal earnings
- (d) promotions on the job
- (e) the relatedness of employment to the program studied
- (f) the relative satisfaction on the job

V THE INSTRUMENT

To ensure consistency in the collection of data, an interview questionnaire was developed and tested for use in this study. (Appendix A).

VI THE SAMPLE

A total of 40 subjects were selected for the study from the population of grade XII graduates of an urban composite high school in 1968. Twenty subjects were randomly selected from the population of general education graduates and twenty were selected on a stratified random basis from the population of vocational education graduates.

VII THE PROCEDURE

The personal interview method was used to collect the data for the study reported here. Persons in the sample were first contacted by telephone and appointments were made for a personal interview with the writer. The data were collected in the months of July and August, 1968.

VIII LIMITATIONS OF THE STUDY

The study reported here was confined to the 1968

graduates of the general and vocational education programs of one urban composite high school. The business education graduates were not included in this study because the business education program had been in effect for many years prior to the introduction of vocational programs under the 1960 Technical and Vocational Training Assistance Act.

It should be noted that the study was conducted one year after the students graduated.

It should also be noted that at the time the students graduated the economy of the community reflected a relatively high level of employment.

The findings of this study and the implications which they suggest are subject to the limitations cited and are applicable only to the participating school. Generalizations beyond the parameters of this study would necessarily have to be based on the assumption that the school involved in the study is representative of all such schools in the City of Edmonton and in the Province of Alberta.

IX SIGNIFICANCE OF THE STUDY

In Alberta one finds that high school programs are generally categorized into three broad streams--the matriculation program for the university-bound students, the general program for those who are still undecided about their goals, and the vocational program for those students who are preparing themselves for specific occupational areas of employment.

Since the vocational education program is relatively new on the educational scene in Alberta, it is important that evaluation be conducted regularly to determine its success. The study reported here was undertaken to assist with such an evaluation. The study could also serve to provide additional data on which future decisions can be based in determining curricular changes or program modification.

X ORGANIZATION OF THE THESIS

This study is presented in five chapters with a bibliography and appendixes. Chapter I presents an introduction and an overview of the problem and an indication of the importance of the study. Chapter II includes a review of the literature which is limited to research, periodicals and books relevant to the study. Chapter III deals with the design of the study. The data are presented and analyzed in Chapter IV. Chapter V reports the summary of the findings and presents implications for education and for further research.

CHAPTER II

REVIEW OF RELATED LITERATURE

'Education for all' is an accepted expression in our Western civilization. Most would agree that education should be adapted to the years, to the capacity, and to the condition of everyone, and be directed to their freedom and happiness as citizens of our society. Most would not argue with the fact that each level of education should prepare the learner at whatever age for his next role in life. Despite the apparent general agreement about education, the age old controversy of 'what education? when? and for whom?' continues.

I . LIBERAL VS. VOCATIONAL EDUCATION

The major controversy seems to be between the two educational philosophies of liberal education and vocational education. Educators in each field strongly advocate their principles only. Each group is equally sincere and believes its interpretations of education are for the benefit of our future citizens. Each group believes in educating the 'whole child,' but will approach it in a different manner.

Those who support the liberal or general education viewpoint maintain that a liberal or general education provides a broad multi-directional base for whole families of occupations whereas vocational education ties individuals to occupational skills that, increasingly, become obsolete.

The opposing viewpoint maintains that what is needed is more, not less, vocational education at the high school and post-high school level. It is pointed out that the majority of those who complete a general education still do not go on to further education. Of those who do, a substantial number drop out. The end result, it is claimed, is that many graduates from high schools are ill-equipped to face the problem of fitting into the world of work. In short, vocational education would be more realistic.

This controversy between liberal and vocational education has continued for many decades. Griswold defines "liberal" as coming from the Latin liber, meaning "free"; that the proper meaning of the phrase "liberal arts" is "the arts becoming to a free man."¹ He says,

The purpose of the liberal arts . . . is to awaken and develop the intellectual and spiritual powers in the individual before he enters upon his chosen career, so that he may bring to that career the greatest possible asset of intellectual resourcefulness, judgement and character.²

Rickover says that the subjects of liberal arts are suitable for the education of free men and vocational subjects were taught to slaves so that they would be "useful" to their masters.³

¹ A.W. Griswold, Liberal Education and the Democratic Ideal, (New Haven: Yale University Press, 1959), p. 6.

² A.W. Griswold, Liberal Education and the Democratic Ideal, (New Haven: Yale University Press, 1959), p. 11.

³ H.G. Rickover, Education and Freedom, (New York: E.P. Dutton and Co. Inc., 1960), p. 3.

According to Dressel,

Liberal education produces a person of comprehension, of character, and of compassion It includes broad knowledge and understanding, virtue, human motive and it prizes truth.⁴

Some educators would question whether liberal education and vocational-technical education should even be compared or related. The assumption might be that there is little or nothing in common to be considered. However, expert opinion dictates the contrary.

Whitehead said,

The antithesis between a technical and a liberal education is fallacious. There can be no adequate technical education which is not liberal and no liberal education which is not technical; there is no education which does not impart both techniques and intellectual vision. In simpler language, education should turn out a pupil with something he knows well and something he can do well.⁵

In Canada, Ford in 1962 stated:

No amount of good general education can compensate for a lack of technical or vocational education; neither can any amount of good technical and vocational education compensate for a lack of general education. Whether we wish to do so or not, we are forced to develop both phases of a complete education. They can be, and must be developed as integral and co-ordinated parts, of a sound system of public education.⁶

⁴ P.L. Dressel, Liberal and Vocational Education, College and University Bulletin, Vol. II, No. 12 (Washington, D.C.: Department of the National Educational Association, May, 1959), p. 9.

⁵ A.N. Whitehead, The Aims of Education and Other Essays, (New York: The MacMillian Co., 1959), p. 74.

⁶ C.R. Ford, "Technical and Vocational Education," (Vocational Training Programs in Alberta School Systems, 18th Annual Short Course, Banff, 1962).

As society reviews its educational goals and its "Education for All" philosophy, vocational education is seldom overlooked in the total educational objectives.

The Harvard Committee Report of 1945 stated in part,

Our conclusion then, is that aims of education should be to prepare an individual to become an expert both in some particular vocation or art and in the general art of the free man and citizen.⁷

In 1959, the Royal Commission on Education, which was charged to study and consider the aims and objectives essential to maintain proper and adequate programs for pupils in Alberta schools, reported in part:

. . . the overwhelming majority of pupils who required basic education and occupational and semi-skilled training are being dumped into society as semi-literate adolescents. Two-thirds of the students who could accomplish technical and other advanced programs, never complete high school.

and recommended:

. . . that the scope of educational offerings at public expense in the high school system be broadened⁸ to include appropriate courses in many vocational areas.

In 1965, Ziel discussed what he believed to be a re-thinking by the Canadian people about their commitment to education. He continued by indicating that for the first time in Canada, public opinion is now beginning to respect the intellectual as well as the vocational pursuits of our youth. Ziel believed that this has come about as a result of the

⁷ General Education in a Free Society, Harvard Committee Report, (Massachusetts: Harvard University Press, 1945), p. 54.

⁸ Royal Commission on Education in Alberta, (A report prepared by the Commissioners on Education, Edmonton, 1959), p. 295.

growing realization of the complexities of industrial processes and the need to have skilled technicians with technological knowledge and manual skills to help scientists and engineers.

Ziel concluded by saying:

These projections of industrial change can be either banners of hope or harbingers of disappointment to the youth who will enter productive society, depending on how well these young people are prepared today in our vocational schools.⁹

More recently the 'Living and Learning' report prepared by Hall, Dennis et al, dealt with education in Ontario and stressed the significance of vocational orientation at the secondary level. The report in part read:

The Committee therefore takes the position that a form of comprehensive school is best suited to offer the diverse study opportunities that should be open to all students . . . the committee wishes to stress the importance of providing a truly comprehensive program that will ensure that vocationally oriented experiences have their rightful place in the school.¹⁰

II CONTEMPORARY VIEWS ON VOCATIONAL EDUCATION

At no time in the history of our country has there been a greater need for young people to stay in school, to further their education, to develop skills needed for our industrialized society, and to continue in some form of education that will equip them to take their place in a highly

⁹H.R. Ziel, Education and Productive Society, (Toronto: W.J. Gage, 1965), p. viii.

¹⁰Living and Learning, The Report of the Provincial Committee on Aims and Objectives of Education in Schools of Ontario, (Toronto, Ontario: Department of Education, 1968), p. 83.

mechanized living situation.

To this end, few would argue that liberal education and vocational education should go hand in hand. They are not isolated, unrelated, or opposed to each other.

A balance must be achieved and perhaps this is best pointed out by Conant:

Vocational education is not offered in lieu of general academic education, but grows out of it, supplementing and enhancing it. Vocational education is an integral part of the total education program and requires aptitudes that students at the lowest academic level do not have. Slow readers, for example, are not able to benefit from regular vocational programs.¹²

Vocational education must be seen in relationship to the individual directly and society generally or indirectly. Barlow makes the point this way:

A justification for improved or new programs of vocational education is based on each individual's right to a complete education, on the responsibility of our society through government and public education to provide instruction, and the responsibility to strengthen our nation and its economy through vocational education as a reclamation of human resources.¹³

Gardner's broad concept of excellence can certainly be used as a rationale for vocational education within our high schools. His pluralistic approach in which many kinds of excellence exist and in which individual fulfillment is honoured¹⁴ should certainly be an argument in favor of voca-

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J.B. Conant, The American High School Today, (New York: McGraw-Hill Book Co., 1959), p. 214.

13

M.L. Barlow, The Challenge to Vocational Education, National Society for the Study of Education, Vocational Education, The Society, Sixty-Fourth Yearbook, (Chicago: 1965), p. 2.

14

J.W. Gardner, Excellence, (New York: Harper & Row Publishers, 1961), p. 134.

tional education.

To further support the argument for individual fulfillment and to answer the question "Why is vocational education necessary?", the following quotation was taken from the 1968 report that was prepared by the Advisory Council on Vocational Education, 1968:

It (vocational education) is the bridge between man and his work. Millions of people need this education in order to earn a living. Every man wants to provide for his family with honor and dignity and to be counted as an individual. Providing for an individual's employability as he leaves school, and throughout his worklife is one of the major goals of vocational education. Vocational education looks at a man as a part of society and as an individual and NEVER BEFORE HAS ATTENTION TO THE INDIVIDUAL AS A PERSON BEEN SO IMPERATIVE.¹⁵

III EVALUATION OF VOCATIONAL EDUCATION

Problems in offering a worthwhile and useful curriculum have always existed in the public high schools, and because of the constantly changing society will probably continue to exist. "Individual excellence," according to Gardner, "will only come about when educators keep abreast with the changing, complex world by offering educational programs designed to meet the future needs of youth."¹⁶

High school programs may be improved greatly by an understanding of what happens to former graduates. Citing

¹⁵ Vocational Education, The Bridge Between Man and His Work, A Report prepared by the Advisory Council on Vocational Education, (Washington: United States Office of Education, 1968), p. 1.

¹⁶ John W. Gardner, Excellence: Can We Be Equal and Excellent Too?, (New York: Harper & Row Publishers, 1961), p. 172.

Levina, "Follow-up studies properly conducted should bring before educators and parents needed changes in the educational system of the schools."¹⁷

Evaluation is important, according to Moss, because it enables educators to make intelligent decisions about program development and operational theories and practices.

Moss further claims that:

We have a moral obligation to students to provide them with the best programs possible We have a social obligation (to use the public investment) with the greatest efficiency for society's ultimate welfare . . . (and) we have a scientific obligation (to develop) a science of instruction without which we shall continue to operate by hunches, authority, tradition, and personal experience.¹⁸

From the survey of current literature on the subject of vocational education evaluation, it would appear that:

One of the best techniques of evaluation has been the follow-up of graduates to determine the extent to which they were placed and succeeded in the occupation for which they were trained. The results of follow-up studies have obvious implications for both program planning and operation.¹⁹

Follow-up studies of graduates and research activities of this nature:

. . . are important to obtain exact implications for

¹⁷L.M. Levina, "A 100% Follow-up," Personnel and Guidance Journal, XXXIII (October, 1954), p. 90.

¹⁸J. Moss Jr., The Evaluation of Occupational Education Programs, (St. Paul: University of Minnesota, Sept. 1968), p. 23.

¹⁹G.L. Brand & N. Rupert Evans, Vocational Education, The Sixty-fourth Yearbook of N.S.S.E., University of Chicago, (Illinois: Chicago Press, 1965), p. 72.

changes in educational offerings. The forthcoming opinions of graduates cannot be ignored by the secondary school if it wishes to serve its clients more effectively.²⁰

Until recently,

. . . the military has done far more research on pertinent problems in vocational, technical and practical arts education than have civilian agencies.²¹

Their research studies, however, are little known because the results are often published in papers not generally available to other researchers.

Evaluation is not only necessary, but also required by law under the federally assisted programs in the United States. According to Lien:

Each school district in the county of Santa Cruz, including the junior colleges, is faced with a federal requirement to follow up each student who completes a program financed under Public Law 88-210. The survey will not only give the schools the data required by the federal government, but, in addition it will indicate to each school something about the adequacy of its counselling program and its curriculum . . . it can also serve as one indication of future curricular needs.²²

Some of the major follow-up studies that have been conducted in vocational education recently are reported here.

The 1963 follow-up of vocational graduates of the

²⁰ Daniel W. Snepp, "Follow-up of Graduates 1959," Clearing House, (December, 1960), p. 23.

²¹ Ralph C. Wenrick, Gordon I. Swanson, and Rupert N. Evans, "Vocational, Technical and Practical Arts Education," Review of Educational Research, Vol. 32, 1962, p. 367.

²² Santa Cruz County Schools Student Follow-Up Survey Manual, Santa Cruz Board of Education, Santa Cruz, 1966, p. ii.

North Atlantic Region was the last in a series of follow-up studies conducted in that region prior to the Division of Vocational and Technical Education of the United States Office of Education assuming this responsibility for all fields of vocational education in all the States. This study was initiated by Connolly and was completed by Schaefer. Over 24,000 graduates from 13 North Atlantic States were involved. The Panel of Consultants in their report on "Education in a Changing World of Work"²³ made reference to some of the findings of this major study.

The study found that 72% of the day program graduates that were available for employment were employed at the time the data were gathered. The girls showed a higher relationship between training and placement (81%) than did boys. The part-time cooperative programs experienced a 90% ratio between availability and job related employment.

In 1967, Fifield and Watson conducted a follow-up study of over 8500 graduates of Pocatello and Idaho Falls High Schools from 1954-63.²⁴ Of the 3,660 completed and returned questionnaires covering their educational and occupational experiences, it was found that the majority of the graduates terminated their formal education at the completion of high school. Furthermore, these graduates received very

²³ Education for a Changing World of Work, a report of the Panel of Consultants on Vocational Education, United States Office of Education, Washington, 1964.

²⁴ M. Fifield and L. Watson, A Follow-Up Study of Pocatello and Idaho Falls High School Graduates (1954-1963), Idaho University, Moscow, 1967.

little training on the job.

The Fifield and Watson study strongly indicated the need for increased emphasis in occupational and vocational information. Insufficient knowledge in the affairs of everyday living was indicated by many respondents. The data suggested that, from a very practical standpoint, if students are to be helped in establishing and raising their occupational levels, this help must come by way of the secondary schools.

In a major study which began in 1963 and concluded in 1968, Eninger described the process and product of trade and industrial secondary school vocational education in the United States.²⁵

A nationwide sample was taken of the 1953, 1958 and 1962 graduates from various sized schools and regions. The types of schools were vocational, technical, vocational-technical and comprehensive.

Eninger's general conclusion was:

Vocationals who work in their field of study do better than direct-to-work academic graduates on every occupational outcome measure. Those who do not work in their field of study do about the same as the academic graduates on all measures with one exception: They get their first job quicker, but have lower present earnings than the academics after 6 and 11 years out of school. The earning difference is substantial at the 11 year point; a 25 cent an hour difference is equivalent to \$1,040.00 per 52 week year.²⁶

²⁵ M.U. Eninger, The Process and Product of Technical and Industrial High School Level Vocational Education in the United States, (Pittsburgh: Educational Systems Research Institute, April, 1968).

²⁶ Ibid., p. 18.

A comprehensive study on the "Role of the Secondary Schools in the Preparation of Youth for Employment" was conducted in 1967 by Kaufman, Schaefer, et al.²⁷

The study involved employers, union officials and a total of 5,181 graduates. Of the total number of graduates interviewed, 2,111 were vocational, 2,023 were general and 1,047 were academic (college preparatory) graduates.

The Kaufman and Schaefer study reported that graduates from all three curricula tended to earn about the same amount of money, to remain on the job for about the same length of time, to leave jobs for much the same reasons, and to have about the same levels of job satisfaction. The differences that were associated with curricula referred to evaluations of training. The vocational graduates clearly thought that they had been better prepared for their jobs than did the academic or general graduates. These attitudes of the respondents, however, were not confirmed by their direct supervisors who rated the preparation of students by all three curricula about the same.

The Kaufman and Schaefer study also found that guidance was a major weakness, and it was the vocational and not the academic or general graduate who needed counselling most.

Vocational educators have perhaps made a greater effort than any other group of educators to evaluate the effec-

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J.J. Kaufman, C.J. Schaefer, et al., The Role of the Secondary Schools in the Preparation of Youth for Employment, Institute for Research on Human Resources, The Pennsylvania State University, University Park, 1967.

tiveness of their offerings through follow-up surveys. Although the effectiveness of vocational education in schools is most clearly seen in the first job held after graduation, subsequent activities should not be overlooked if the long-range influence of such education is to be assessed.

This chapter dealt with some of the views held on the controversial issues of general education versus vocational education. Some contemporary views of vocational education and its place in the secondary schools were also reviewed. The last part of the Chapter dealt with the evaluation of such education through follow-up studies.

CHAPTER III

METHODOLOGY

The study was designed to compare the employability of vocational and general diploma graduates on the basis of:

1. the time required to find the first full time employment.
2. employment security.
3. the initial and terminal earnings on the jobs held.
4. the number of promotions within the job.
5. the relatedness of employment to the high school program studied.
6. the method used to find employment.
7. the relative satisfaction of employment held.

The comparison was made by selecting a sample of each group and inferring the results of the findings to the population.

I THE INTERVIEW QUESTIONNAIRE

An interview questionnaire was determined as the most practical instrument for collecting the data essential for this study. The instrument enabled the interviewer to be consistent in the questioning procedure and precise in the recording of the responses. The interview questionnaire (Appendix A) was designed to elicit information related to:

1. the length of time required to obtain first full time employment.
2. the length of time spent on each job.
3. the initial and terminal earnings on each job.
4. the number of promotions within the job.
5. the relatedness of employment to the high school program studied.
6. the method used to find employment.
7. the relative satisfaction of employment held.

Internal checks were included in the questionnaire to test the accuracy of the responses given.

II PILOT STUDY

The interview questionnaire was constructed and tested prior to being used in the study. The first test involved two general diploma students and two vocational students who graduated from St. Joseph Composite High School in June 1967. Following the first test two additional questions were added to the questionnaire to provide a check on the accuracy of the responses related to promotions. A minor modification was also made to the questionnaire to permit the recording of the necessary information when more than one job was reported. The revised instrument was tested again on four additional 1967 graduates. The second test indicated that the instrument was satisfactory and that no further alterations were necessary.

III. THE NATURE OF THE POPULATION

The study population consisted of 1968 graduates from St. Joseph Composite High School in the Edmonton Separate School District. It is a medium-size urban high school which offers a wide range of vocational programs along with the general and matriculation programs. The school provides facilities and programs for students of varying interests and abilities.

The total population of the school at the time of graduation in June, 1968 was 1,167. At that time there were 385 students in Grade X, 358 in Grade XI and 424 in Grade XII. Of the Grade XII students enrolled, as indicated in Table I, there were 95 in the business education program, 102 were in the vocational program, 111 in the general diploma program, and 85 were matriculation students. Thirty-one students were registered in a few Grade XII subjects and were, therefore, categorized as Grade XII students but actually required another year of study.

IV. THE SAMPLE OF THE STUDY

The sample consisted of 40 subjects from the population of Grade XII graduates of St. Joseph Composite High School, Edmonton, in 1968. Twenty subjects were randomly selected from the population of general education graduates and twenty subjects were selected on a stratified random basis from the population of vocational education graduates enrolled in three apprenticeship and five technology programs as indicated in Table II.

TABLE I

GRADE XIII POPULATION, BY PROGRAM,
ST. JOSEPH COMPOSITE HIGH SCHOOL
JUNE 30, 1968

PROGRAM	POPULATION
Business Education	95
Vocational	102
General Diploma	111
Matriculation	85
Partial Grade XII	31
TOTAL	424

TABLE II
THE SAMPLE OF THE STUDY
BY PROGRAM

PROGRAM CLASSIFICATION	POPULATION	SAMPLE
VOCATIONAL GRADUATES:		
<u>Apprenticeship Group</u>		
Automotives 32	26	5
Appliance Servicing 32	8	2
Food Preparation 32	<u>13</u>	<u>3</u>
TOTAL APPRENTICESHIP	47	10
<u>Technology Group</u>		
Drafting 32	7	1
Electricity 32	7	1
Electronics 32	20	4
Building Construction 32	7	1
Commercial Art 32	<u>13</u>	<u>3</u>
TOTAL TECHNOLOGY	<u>55</u>	<u>10</u>
VOCATIONAL GRADUATES	102	20
GENERAL DIPLOMA GRADUATES	111	20
TOTAL STUDY	213	40

V DATA COLLECTION PROCEDURES

The personal interview method was employed to collect the data for the study reported here. Persons in the sample were first contacted by telephone and appointments were made for a personal interview with the writer. The places of appointments ranged from the individual's residence, to the place of employment or a favorite coffee shop. The times of appointments ranged from mornings, evenings, days off to lunch breaks. The data were collected in the months of July and August, 1969.

After establishing rapport with the respondent, the interview questionnaire (Appendix A) was used to ensure consistency in the questioning and recording.

To facilitate compilation of the data collected, color coded questionnaires were used for the different groups.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Chapter I of this study introduced the problem and presented the seven null hypotheses to be tested. Each of the seven null hypotheses will serve as a major division of Chapter IV. The data are reported, analyzed and the respective null hypothesis tested in each division. Other findings and observations are also reported.

I NULL HYPOTHESIS NUMBER ONE

There is no significant difference between vocational and general graduates in the time required for obtaining first full time employment.

The data related to null hypothesis number one are presented in Table III.

Of the twenty general graduates, it was found that fifteen sought full time employment immediately upon graduation, while five did not. The reasons given by those who did not seek immediate employment were as follows: one was married, two went on a holiday, and two worked on a part-time basis while continuing their studies.

For the fifteen general graduates who did seek immediate employment the mean time lapse in months between graduation and employment was 1.46.

Of the twenty vocational graduates, all sought employ-

TABLE III

TIME REQUIRED TO OBTAIN INITIAL FULL TIME EMPLOYMENT

GROUP	RESPONDENT	SEEKING JOB	OBTAINING JOB	TIME LAPSE (MONTHS)
GENERAL	1	-	-	-
	2	X	X	5
	3	X	X	0
	4	X	X	0
	5	X	X	0
	6	X	X	0
	7	X	X	2
	8	X	X	0
	9	X	X	0
	10	-	-	-
	11	-	-	-
	12	X	X	5
	13	X	X	0
	14	X	X	0
	15	X	X	2
	16	-	-	-
	17	-	-	-
	18	X	X	4
	19	X	X	1
	20	X	X	3
VOCATIONAL (APPRENTICE- SHIP)	21	X	X	0
	22	X	X	0
	23	X	X	0
	24	X	X	2
	25	X	X	0
	26	X	X	0
	27	X	X	0
	28	X	X	6
	29	X	X	0
	30	X	X	0
VOCATIONAL (TECHNOLOGY)	31	X	X	2
	32	X	X	2
	33	X	X	0
	34	X	X	1
	35	X	X	0
	36	X	X	0
	37	X	X	1
	38	X	X	0
	39	X	X	1
	40	X	X	2

Mean of General Group = 1.46 months.

Mean of Vocational Group = .85 months.

NOTE: X denotes respondents seeking and obtaining jobs.
 - denotes respondents not seeking jobs.

ment immediately upon graduation and the mean time lapse between graduation and employment for this group was .85 months.

A t test was performed to test the null hypothesis of no difference between mean time lapses in obtaining jobs for the vocational and general graduates and it was found that the observed t was 1.10 ($df = 33$). This was considerably below the critical value of t which was 2.04.

II NULL HYPOTHESIS NUMBER TWO

There is no significant difference between vocational and general graduates in the number and duration of jobs held since graduation.

Table IV indicates the number of graduates in the sample who sought employment, the number of different jobs held and the duration of each job in months.

It was found that of the respondents who sought employment, 27% of the general and 15% of the vocational graduates held two jobs within the year following graduation. The apprenticeship sub-group of the vocational graduates appeared to have the greatest job stability. None of the respondents of this sub-group reported having more than one job since leaving high school.

The mean duration of the jobs held by each of the general and vocational graduates was 8.0 months and 8.7 months respectively. Applying the t test to determine the significance in means of the two groups, it was found that the observed value of t was .70. The critical values of t at the

TABLE IV
NUMBER AND DURATION OF JOBS HELD

GROUP	RESPONDENT	SEEKING JOB	NUMBER OF JOBS HELD	TOTAL DURATION IN MONTHS
GENERAL	1	-	-	-
	2	X	1	7
	3	X	1	6
	4	X	1	12
	5	X	2	12
	6	X	2	12
	7	X	2	10
	8	X	1	12
	9	X	1	12
	10	-	-	-
	11	-	-	-
	12	X	1	7
	13	X	1	12
	14	X	1	12
	15	X	1	10
	16	-	-	-
	17	-	-	-
	18	X	2	8
	19	X	1	11
	20	X	1	9
VOCATIONAL (APPREN- TICESHIP)	21	X	1	12
	22	X	1	12
	23	X	1	12
	24	X	1	10
	25	X	1	12
	26	X	1	12
	27	X	1	12
	28	X	1	6
	29	X	1	12
	30	X	1	12
VOCATIONAL (TECH- NOLOGY)	31	X	1	10
	32	X	1	10
	33	X	1	2
	34	X	1	8
	35	X	2	12
	36	X	2	12
	37	X	1	2
	38	X	2	12
	39	X	1	11
	40	X	1	10

General Group Mean = 8 months.

Vocational Group Mean = 8.7 months.

Apprenticeship Sub-group Mean = 11.2 months

Technology Sub-group Mean = 6.8 months.

NOTE: x denotes respondents seeking jobs.

- denotes respondents not seeking jobs.

predetermined level of .05 for 40 degrees of freedom were ± 1.96 .

Statistically, within the one-year period following graduation, there was no significant difference between the two groups of graduates in the length of time they stayed on the job.

Further analysis of the data indicated that there was a significant difference between apprenticeship graduates and technology graduates in the vocational group. The apprenticeship graduates showed an observed value of $t = 5.48$, compared to the critical values of ± 2.08 for 21 degrees of freedom.

A similar difference was noted between the apprenticeship graduates and the general graduates in the duration of the jobs held since graduation (observed $t = 3.13$; critical $t = \pm 2.05$ for 27 degrees of freedom).*

III NULL HYPOTHESIS NUMBER THREE

There is no significant difference between vocational and general graduates in the initial and the terminal gross hourly earnings on the jobs held.

The initial gross hourly earnings and the terminal gross hourly earnings for the jobs held by both the vocational and general graduates are reported in Table V.

*NOTE: The two vocational respondents who reported having worked two months were graduates of the Commercial Art program. They worked part of the summer prior to entering the College of Art at the Southern Alberta Institute of Technology.

TABLE V

GROSS HOURLY EARNINGS OF EMPLOYED GRADUATES

GROUP	RESPONDENTS	JOB I		JOB 2	
		INITIAL	TERMINAL	INITIAL	TERMINAL
GENERAL	1	-	-		
	2	2.10	2.10		
	3	1.44	1.63		
	4	1.75	1.75		
	5	1.65	1.65	1.85	1.85
	6	1.75	1.75	1.50	1.65
	7	1.75	1.75	1.85	1.85
	8	1.72	1.90		
	9	2.87	3.00		
	10	-	-		
	11	-	-		
	12	1.53	1.65		
	13	1.85	2.00		
	14	1.54	1.84		
	15	1.95	2.76		
	16	-	-		
	17	-	-		
	18	1.50	1.65	1.75	2.00
	19	1.52	1.52		
	20	1.08	1.09		
VOCATIONAL	21	2.50	2.50		
(APPREN-	22	1.75	2.00		
TICESHIP)	23	1.90	1.90		
	24	1.84	2.03		
	25	2.25	2.25		
	26	1.85	2.07		
	27	1.95	2.45		
	28	2.17	2.57		
	29	1.91	2.23		
	30	2.25	2.75		
VOCATIONAL	31	1.75	1.85		
(TECH-	32	2.14	2.36		
NOLOGY)	33	1.75	1.75		
	34	1.25	2.00		
	35	1.52	1.74	1.74	1.74
	36	1.56	1.74	1.90	1.90
	37	1.25	1.25		
	38	1.25	1.25	1.56	1.56
	39	1.25	1.25		
	40	2.50	3.25		

General group--Initial Earnings Mean = \$1.70

Terminal Earnings Mean = \$1.90

Vocational group--Initial Earnings Mean = \$1.83

Terminal Earnings Mean = \$2.08

NOTE: - denotes respondents not seeking jobs therefore no responses.

When respondents indicated having held two jobs, the initial gross hourly earnings of the first job and the terminal gross hourly earnings of the second job were used in calculating the means for the two groups.

The means for the initial gross hourly earnings for the general and vocational graduates were found to be \$1.70 and \$1.83 respectively. Testing for the significance of difference in means it was found that the computed value of t was .90.

Applying the same statistical computation to the means of the terminal gross hourly earnings, which were \$1.90 and \$2.08 for the general and vocational graduates respectively, the computed value of t was found to be 1.11. The critical values of t , set a priori at the .05 level were ± 2.04 for 33 degrees of freedom.

IV NULL HYPOTHESIS NUMBER FOUR

There is no significant difference between vocational and general graduates in the number of promotions within the jobs held since graduation.

The number of promotions within the jobs held since graduation reported by the respondents are presented in Table VI.

Null hypotheses 4, 5, 6, and 7 involved a test of significance of independent proportions. This necessitated the use of chi square test which, because of small sample size

TABLE VI
PROMOTIONS WITHIN THE JOB

GROUP	RESPONDENTS	NUMBER OF JOBS HELD	NUMBER OF PROMOTIONS
GENERAL	1	-	-
	2	1	0
	3	1	0
	4	1	0
	5	2	0
	6	2	0
	7	2	0
	8	1	0
	9	1	0
	10	-	-
	11	-	-
	12	1	0
	13	1	0
	14	1	0
	15	1	1
	16	-	-
	17	-	-
	18	2	0
	19	1	0
	20	1	0
VOCATIONAL (APPREN- TICESHIP)	21	1	1
	22	1	0
	23	1	1
	24	1	0
	25	1	1
	26	1	1
	27	1	0
	28	1	1
	29	1	1
	30	1	1
VOCATIONAL (TECH- NOLOGY)	31	1	0
	32	1	0
	33	1	0
	34	1	0
	35	2	1
	36	2	0
	37	1	0
	38	2	0
	39	1	0
	40	1	0

NOTE: - denotes respondent did not hold job, therefore had no promotions.

incorporated Yates' correction for continuity.¹

The observed chi square value calculated from Table VII was 5.31, considerably higher than the critical value of 3.84 at the .05 level for 1 degree of freedom.

The vocational graduates received significantly more promotions than did the general graduates.

A further test for significance of difference between proportions of the two vocational sub-groups revealed that the apprenticeship graduates received more promotions than the technology graduates (Table VIII). The observed chi square value was 7.12 as opposed to a critical value of 3.84 at the .05 level and 1 degree of freedom.

A further comparison (Table IX) indicated no significant difference in the promotions received on the job between the technology and the general graduates 1.70 compared to the critical value of chi square of 3.84 at the .05 level and 1 degree of freedom.

V NULL HYPOTHESIS NUMBER FIVE

There is no significant difference between vocational and general graduates in the relatedness of employment held since graduation to the program studied in high school.

¹G.A. Ferguson, Statistical Analysis in Psychology and Education, (New York: McGraw-Hill Book Co., 1966), p. 207.

TABLE VII

CONTINGENCY TABLE SHOWING PROMOTIONS AND NON-PROMOTIONS
FOR THE GENERAL AND VOCATIONAL GROUPS

	GENERAL	VOCATIONAL	TOTALS
PROMOTIONS	1	8	9
NON-PROMOTIONS	18	15	33
TOTALS	19	23	42

TABLE VIII

CONTINGENCY TABLE SHOWING PROMOTIONS AND NON-PROMOTIONS
FOR THE APPRENTICESHIP AND TECHNOLOGY GROUPS

	APPRENTICESHIP	TECHNOLOGY	TOTALS
PROMOTIONS	7	1	8
NON-PROMOTIONS	3	12	15
TOTALS	10	13	23

TABLE IX

CONTINGENCY TABLE SHOWING PROMOTIONS AND NON-PROMOTIONS
FOR THE TECHNOLOGY AND GENERAL GROUPS

	TECHNOLOGY	GENERAL	TOTALS
PROMOTIONS	1	1	2
NON-PROMOTIONS	18	12	30
TOTALS	19	13	32

The data related to this null hypothesis are presented in Table X.

The chi square value calculated from Table XI was 17.9 at the .05 level and 1 degree of freedom. The critical value of chi square was 3.84 for the same level of significance and 1 degree of freedom.

A very marked relatedness was observed between the jobs the vocational graduates held and the program studied.

The general graduates, on the other hand, indicated no relationship between the jobs and the programs studied, with one exception. The one exception was an indirect relationship. The highest percentage of the general graduates were employed in clerical, sales, shipping, receiving and warehousing.

Two of the vocational graduates, one from each of the apprenticeship and technology sub-groups reported an indirect relationship.

No significant difference was found between the apprenticeship group and the technology group in the relatedness of the jobs these groups held to the programs studied.

(Calculated from Table XII, the value of chi square was 1.43, critical value was 3.84 at the .05 level, df - 1).

VI NULL HYPOTHESIS NUMBER SIX

There is no significant difference between vocational and general graduates in the methods used to find employment.

The methods the vocational and general groups used to find employment are presented in Table XIII.

TABLE X

RELATEDNESS OF EMPLOYMENT TO THE HIGH SCHOOL
PROGRAM STUDIED

GROUP	RESPONDENTS	J OBS	DIRECTLY HELD RELATED	INDIRECTLY RELATED	NOT RELATED
GENERAL	1	-			
	2	1			1
	3	1			1
	4	1			1
	5	2			2
	6	2			2
	7	2			2
	8	1			1
	9	1			1
	10	-			
	11	-			
	12	1			1
	13	1		1	
	14	1			1
	15	1			1
	16	-			
	17	-			
	18	2			2
	19	1			1
	20	1			1
VOCATIONAL (APPREN- TICESHIP)	21	1	1		
	22	1	1		
	23	1	1		
	24	1			1
	25	1	1		
	26	1	1		
	27	1			1
	28	1	1		
	29	1		1	
	30	1	1		
VOCATIONAL (TECH- NOLOGY)	31	1			1
	32	1	1		1
	33	1			1
	34	1	1		
	35	2	2		
	36	2	1		1
	37	1	1		
	38	2	1		1
	39	1		1	
	40	1	1		

NOTE: - denotes respondent did not hold job.

TABLE XI

CONTINGENCY TABLE SHOWING RELATEDNESS AND NON-RELATEDNESS
OF EMPLOYMENT TO PROGRAM STUDIED FOR THE
GENERAL AND VOCATIONAL GROUPS

	GENERAL	VOCATIONAL	TOTALS
RELATED	0	15	15
NON-RELATED	18	6	24
TOTALS	18	21	39

TABLE XII

CONTINGENCY TABLE SHOWING RELATEDNESS AND NON-RELATEDNESS
OF EMPLOYMENT TO PROGRAM STUDIED FOR THE
APPRENTICESHIP AND TECHNOLOGY GROUPS

	APPRENTICESHIP	TECHNOLOGY	TOTALS
RELATED	7	8	15
NON-RELATED	3	13	16
TOTALS	10	21	31

TABLE XIII

METHOD USED TO FIND EMPLOYMENT

GROUP	RESPOND- ENTS	NUMBER OF JOBS HELD	DIRECT APPLICA.	FRIEND OR RELATIVE	TEACHER	COUNSELLOR	MANPOWER	NEWSPAPER	OTHER
GENERAL	1	-							
	2	1					X		
	3	1		X					
	4	1	X						
	5	2	X	X					
	6	2	X	X					
	7	2	XX						
	8	1						X	
	9	1					X		
	10	-							
	11	1							
	12	1						X	
	13	1		X					
	14	1						X	
	15	1			X				
	16	-							
	17	-							
	18	2			X				X
	19	1			X				
	20	1				X			
VOCATIONAL (APPREN- TICESHIP)	21	1	X						
	22	1				X			
	23	1				X			
	24	1		X					
	25	1		X					
	26	1						X	
	27	1			X				
	28	1		X					
	29	1			X				
	30	1			X				
VOCATIONAL (TECH- NOLOGY)	31	1	X						
	32	1		X					
	33	1		X					
	34	1						X	
	35	2					X	X	
	36	2			X			X	
	37	1			X				
	38	2	XX						
	39	1		X					
	40	1				X			

NOTE: - denotes respondent did not seek job.
 X denotes method used to find employment.

The study revealed that about an equal number of graduates of both groups found employment through direct application. Table XIV was used to compute the chi square value which was .014 at the .05 level of significance and 1 degree of freedom. (Critical value = 3.84).

There was generally no significant difference between the two groups in the methods used to find employment. Friends and relatives, Manpower, newspaper advertisements and other methods such as labour unions, government posters and bulletin boards all were reported in about the same proportions by both the vocational and general graduates.

The teacher played a slightly higher role in finding employment for vocational graduates than for general graduates.

TABLE XIV

CONTINGENCY TABLE SHOWING DIRECT AND INDIRECT METHODS USED TO FIND EMPLOYMENT BY GENERAL AND VOCATIONAL GROUPS

	GENERAL	VOCATIONAL	TOTALS
DIRECT	7	10	17
INDIRECT	12	13	25
TOTALS	19	23	42

Of the sample studied, none reported finding employment through the assistance of the guidance counsellor.

VII NULL HYPOTHESIS NUMBER SEVEN

There is no significant difference between vocational and general graduates in the relative satisfaction of employment held since graduation.

Table XV indicates the data of the relative satisfaction or dissatisfaction with the jobs held by vocational and general graduates.

From Table XVI it was found that the observed value of chi square was 8.37. The value of 8.37 was considerably higher than the critical value of 3.84 at the .05 level for one degree of freedom.

The study disclosed a marked satisfaction on the part of the vocational group with the work they were doing. Of the general group, approximately one half reported dissatisfaction with their employment.

VIII ADDITIONAL FINDINGS

During the course of the investigation there was an apologetic tone on the part of many of the general graduates about the jobs they held. In many instances excuses were made such as, "This is only a temporary job," or "I'll be getting a different job later." When asked about their employment and educational plans for the next three years, most general graduates answered in very vague terms.

TABLE XV
JOB SATISFACTION

GROUP	RESPONDENTS	TOTAL NUMBER OF JOBS HELD	SATISFIED	DIS- SATISFIED
GENERAL	1	-		
	2	1		X
	3	1	X	
	4	1	X	
	5	2		XX
	6	2		XX
	7	2		XX
	8	1	X	
	9	1		X
	10	-		
	11	-		
	12	1	X	
	13	1	X	
	14	1	X	
	15	1	X	
	16	-		
	17	-		
	18	2	X	
	19	1	X	
	20	1	X	
VOCATIONAL (APPREN- TICESHIP)	21	1	X	
	22	1	X	
	23	1	X	
	24	1	X	
	25	1	X	
	26	1	X	
	27	1	X	
	28	1	X	
	29	1	X	
	30	1	X	
VOCATIONAL (TECH- NOLOGY)	31	1	X	
	32	1	X	
	33	1	X	
	34	1	X	
	35	2	XX	
	36	2	XX	
	37	1		X
	38	2	XX	
	39	1	X	
	40	1	X	

NOTE: - denotes respondent did not seek employment.

TABLE XVI

CONTINGENCY TABLE SHOWING SATISFACTION AND DISSATISFACTION
WITH THE JOBS HELD BY GENERAL AND VOCATIONAL GROUPS

	GENERAL	VOCATIONAL	TOTALS
SATISFACTION	10	22	32
DISSATISFACTION	9	1	10
TOTALS	19	23	42

All but one of the vocational graduates interviewed spoke enthusiastically about their employment and most disclosed definite plans for the future. In most instances the immediate goal of the vocational graduates, particularly the apprenticeship group, was to obtain journeyman certification. This same group appeared to be most aware of the need for more academic skills and many indicated plans to pursue such skills through evening classes.

The data collected by means of the internal check questions which were incorporated into the instrument disclosed the fact that 15% of the general graduates and 60% of the vocational graduates had participated in some type of further education or training since they left high school.

Further, from the respondents' comments, it would appear that there exists a need for more counselling, not only before and during the high school years, but also after graduation.

This was indicated by the fact that during the interview many graduates, particularly general diploma graduates, sought advice from the interviewer regarding further education and training. Many volunteered such statements as, "I wish I had known more about the various programs before I registered," "I wish I would have known more about the different types of jobs," or "Where can I get information about re-training programs?"

CHAPTER V

SUMMARY, CONCLUSIONS AND IMPLICATIONS

There are three types of programs in the comprehensive secondary schools in Alberta--the academic, general and vocational. The academic program has been well accepted as a preparatory program for those students who are university bound. The general and vocational programs have not yet gained this high acceptance, yet they accommodate large numbers of students, many of whom will be seeking direct employment upon leaving school. Since vocational education is a relatively new and relatively costly program in our comprehensive high school, it is important to evaluate its effectiveness in terms of its objectives and in relation to the effectiveness of other programs. One technique for determining the effectiveness of such educational programs is to examine and study the products of the programs, that is, the graduates.

The purpose of the study reported here was to compare the employability of vocational and general graduates. The comparison was made on the basis of the following dimensions:

1. the time required to find the first full time employment.
2. employment security since graduation.
3. the initial and terminal earnings on the jobs held.

4. the number of promotions within the job.
5. the relatedness of employment to the high school program studied.
6. the method used to find employment.
7. the relative satisfaction of employment held.

I SUMMARY OF FINDINGS

On the basis of the data presented and analyzed in Chapter IV, null hypotheses one, two, three and six were not rejected. The findings indicated that there were no significant differences between vocational and general graduates with respect to:

1. the time required to obtain the first job.
2. the number and duration of the jobs held.
3. the initial and terminal gross hourly earnings.
4. the methods used to find employment.

Null hypotheses number four, five and seven were rejected. The analysis of the data indicated that there were statistically significant differences between vocational and general graduates with respect to:

1. the number of promotions within the job.
2. the relatedness of employment to the program studied.
3. relative job satisfaction.

Examination of the data collected revealed that the apprenticeship graduates of the vocational group had greater job stability than the technology and the general graduates.

The vocational graduates received a significantly higher number of promotions on the job than did the general graduates. The apprenticeship sub-group received the highest proportion of promotions, while the technology and the general graduates indicated a proportionately equal number of promotions.

An interesting point revealed in the study was the fact that although the vocational graduates indicated a higher degree of promotions, this was not reflected in their earnings. It would appear that most of the promotions were advancements to the next year of apprenticeship, which reflected an insignificant increase in the percentage of the journeyman pay. The increase in earnings would be significantly higher for the apprenticeship group upon completion of the apprenticeship program and the attainment of journeyman status.

It was found that the vocational group had a significantly higher relationship between the jobs held and the program studied in high school. The relationship was most pronounced for the apprenticeship graduates.

The relative job satisfaction reported was also considerably higher for the vocational group than for the general group.

The study revealed that the vocational group appeared to have more clearly defined goals in terms of further education and training. This was borne out by the fact that four times as many vocational graduates as general graduates

were continuing with some form of education or training.

From the comments made to the interviewer, the study also revealed that the graduates felt they would have profited from more vocational counselling in school. Many, in fact, are still seeking such counselling. This felt need was expressed mainly by the graduates of the general diploma program.

Also, worth noting is the fact that many of the parents who sat in on the interviews expressed sincere appreciation for the interest shown to their children through the follow-up study. If the study had accomplished nothing else, it was worth the effort in terms of public relations between the school and the community.

II CONCLUSIONS

The study found that the vocational graduates indicated significantly higher differences than the general graduates on 3 of the 7 dimensions of employability. Therefore, the general hypothesis that there is no difference in employability between vocational and general high school diploma graduates was rejected.

The study concluded that vocational graduates are more employable than general graduates and therefore the vocational education program is effective in terms of its objectives and in relation to the effectiveness of the general education program. The monetary expenditure which is sometimes considered to be higher for the vocational program

than for the general program, becomes a worthy investment in our youth.

Vocational programs should not only be continued, therefore, but also expanded to include career guidance and vocational experiences for greater numbers of students.

III IMPLICATIONS FOR EDUCATION

The necessity for vocational competence in our society cannot be over-emphasized. An accepted function of secondary education is the preparation of youth through the development of skills necessary for either occupational placement or further education. This is evidenced in the Department of Education Senior High School Handbook which states:

The school must help each Alberta youth to develop those understandings and attitudes that will make him an intelligent and productive participant in economic life; and assist him to develop saleable skills, or prepare for post-school vocational training. The youth should:

- i. Become familiar with the range of vocational opportunities open to him.
- ii. Learn how to take full advantage of the school and extra-school guidance services.
- iii. Achieve an acceptance of his own capacities as indicated by professional analysis of interests, socio-economic status, aptitudes, personality, and native intelligence.¹

It was apparent from the study that the majority of the general graduates terminated formal education at the completion of high school. Furthermore, since high school graduation, these graduates acquired very limited special

¹Department of Education, Senior High School Handbook, (Edmonton: Queen's Printer for Alberta, 1968), p. 5.

training or additional skills. Thus for many of these students, general education and vocational preparation terminated with the completion of high school. The data suggest that from a very practical standpoint, if students are to be helped in establishing and raising their occupational levels, the help must come by way of the secondary schools. Occupational experiences need to be arranged for these students through vocational and work-study programs.

It is generally agreed that workers who have completed the most education have the highest income. Yet, experience has shown that the amount of money one can earn should not be the compelling consideration in choosing a career. Job satisfaction and many other personal rewards that accrue from the right choice of a career may be even more important than monetary consideration. It follows, therefore, that a young person must first of all consider his own interests, talents and abilities in making occupational choice.

There appears little doubt that choosing a career will be one of the most important decisions a young person will ever have to make. There was a strong indication from the respondents of the study that more counselling is needed at all levels of youth's development. Educators have a moral obligation to the youth to provide them with the best counselling and the best programs at the price society is prepared to pay.

The study indicated that the students who had gradu-

ated from the vocational programs had established realistic and attainable goals. The self-confidence and sense of accomplishment was reflected in their job satisfaction. If vocational education can effect a sense of satisfaction and self-realization within the students, there can be little doubt that they will become better citizens in our productive society and vocational education will have made its rightful contribution.

IV. IMPLICATIONS FOR FURTHER RESEARCH

The appropriateness and utility of the learning opportunities provided by the school should not be left to intuition, chance or the influence of various pressure groups. Factors as important as these should be the object of careful and extensive study. It is recommended that a province-wide evaluation program be initiated. A comprehensive study using a more stringent research design should be undertaken each year to thoroughly evaluate specific aspects and dimensions of the programs.

If the need for more counselling is as serious as some of the respondents of this study seemed to indicate, perhaps an evaluation of the effectiveness of vocational guidance in the Junior, Senior and Post-secondary schools might well be a topic for further study.

With the present cost-conscious society and current references to program budgeting procedures by educators, a

timely topic for research might be a comparative cost-effectiveness analysis of the vocational and general education programs which would include non-economic as well as economic benefits to be related to the cost of such programs.

BIBLIOGRAPHY

BIBLIOGRAPHY

Barlow, M.L. The Challenge to Vocational Education. National Society for the Study of Education, Vocational Education, Sixty-fourth Yearbook, Chicago: 1965, p. 21.

Best, John W. Research in Education. New Jersey: Prentice Hall Inc., 1959.

Borow, H. Man in a World at Work. Boston: Houghton Mifflin Co., 1964.

Brand, G.L. and Rupert N. Evans, Vocational Education. The Sixty-fourth Yearbook of N.S.S.E., University of Chicago, Chicago Press, Illinois, 1965.

Campbell, William G. Form and Style in Thesis Writing. Boston: Houghton Mifflin Co., 1954.

Canada, Department of Labour. Annual Report. Ottawa: The Queen's Printer, 1961, p. 76.

Canada Year Book. Ottawa: Queen's Printer, 1968, p. 364.

Cloyd, H.S. "A Follow Up of Business Education Graduates," The Balance Sheet. October, 1964.

Conant, J.B. The American High School Today. New York: MacGraw Hill Book Co., 1959, p. 214.

Coutts, Dr. H.T. Directions and Dilemmas. An Address Delivered at the Canadian Education Association Short Course, Banff, Alberta, May 19, 1964.

Department of Education, Province of Alberta. Senior High School Handbook, 1968-69. Department of Education, Edmonton: Queen's Printer, 1968, p. 21.

Department of Labour. "Building for Tomorrow," Technical and Vocational Education in Canada. Vol. 4, No. 2, Spring, 1966.

Dressel, P.L. Liberal and Vocational Education. College and University Bulletin, Vol. II, No. 12, May, 1959. Department of National Education Association, Washington, D.C., p. 9.

Eninger, M.U. The Process and Product of Technical and Industrial High School Level Vocation in the United States. Educational Systems Research Institute, Pittsburgh, April, 1968.

Ferguson, George A. Statistical Analysis in Psychology and Education. New York: McGraw Hill Book Co., 1966.

Fifield, M. and L. Watson. A Follow Up Study of Pocatello and Idaho Falls High School Graduates 1954-1963. Idaho University, Moscow, 1967.

Ford, C.R. "Technical and Vocational Education," Vocational Training Programs in Alberta Schools, 18th Annual Short Course, Banff, 1962. (Mimeoographed).

Gardner, J.W. Excellence. New York: Harper and Row Publishers, 1961, p. 134.

Good, Carter V. Introduction to Educational Research. New York: Appleton-Century-Crafts, 1963.

Griswold, A.W. Liberal Education and The Democratic Ideal. New Haven: Yale University Press, 1959, p. 61.

Harvard Committee Report. General Education in a Free Society. Harvard University Press, Mass., 1945, p. 54.

Jackson, R.M. and J.W.M. Rothney. "Comparative Study of the Mailed Questionnaire and the Interview in Follow-up Studies." Personnel and Guidance Journal. XXXIX March 1961.

Kaufman, J.J., C.J. Schaefer, et al. The Role of the Secondary Schools in the Preparation of Youth for Employment. Institute for Research on Human Resources, The Pennsylvania State University, University Park, 1967.

Lambert, S.M. "Studies of High School Graduates." National Education Association Research Bulletin XLII. May, 1962.

Levina, L.M. "A 100% Follow-up," Personnel and Guidance Journal. XXXIII (October, 1954) p. 90.

Living and Learning. The Report of the Provincial Committee on Aims and Objectives of Education in Schools of Ontario, Toronto: Department of Education, 1968, p. 83.

Moorman, J.H. "Follow-up Studies Can Improve Instruction," Business Education Forum, May, 1955.

Moss, J. Jr. The Evaluation of Occupational Education Programs. University of Minnesota, St. Paul, September 1968, p. 23.

Report of the Select Committee on Manpower Training. Ottawa: Province of Ontario, February, 1963, p. 34.

Rickover, H.G. Education and Freedom. New York: E.P. Dutton and Co., Inc., 1960, p. 3.

Royal Commission On Education in Alberta. A Report prepared by the Commissioners on Education, Edmonton, 1959, p. 295.

Santa Cruz County Schools Student Follow Up Survey Manual. Santa Cruz Board of Education, Santa Cruz, 1966, p. 11.

Snepp, Daniel W. "Follow up of Graduates 1959," Clearing House. XXV, December, 1960.

Technical and Vocational Education in Canada. Vol. 2, No. 3, 1968, Technical and Vocational Training Branch, Department of Labour, Ottawa, p. 15.

Technical and Vocational Training, Canadian Business Magazine. May, 1962, p. 371.

The Edmonton Journal. Edmonton: March 7, 1969, p. 32.

Travers, Robert M.W. An Introduction to Educational Research. New York: MacMillan Co., 1964.

United States Office of Education. Education for a Changing World of Work. A Report of the Panel of Consultants on Vocational Education, Washington, D.C., 1964.

Vocational Education, The Bridge Between Man and His Work. A Report prepared by the Advisory Council on Vocational Education, United States Office of Education, Washington, 1968, p. 1.

Vocational and Technical Training Assistance Act. Department of Labour, Ottawa: Queen's Printer, 1961.

Weaver, Richard, and S. Bear. "Follow-up Survey of High School Graduates," National Association of Secondary School Principals' Bulletin. XLIV, February, 1960.

Wenrick, Ralph C., Gordon I. Swanson, and Rupert N. Evans. "Vocational Technical and Practical Arts Education." Review of Educational Research. Vol. 32, 1962, p. 367.

Whitehead, A.N. The Aims of Education and Other Essays. New York: The MacMillan Co., 1959, p. 74.

Ziel, Dr. H.R. Education and Productive Society. Toronto: W.J. Gage, 1965, p. viii.

A P P E N D I X A

INTERVIEW QUESTIONNAIRE
FOR
The follow-up of the 1968
St. Joseph High School Graduates

NAME (last) _____ (Given) _____

If Married, Maiden Name _____

Address _____ Telephone _____

Graduate:

Vocational _____ (Technology _____ Apprenticeship _____)

General Diploma _____

Appropriate Greeting

My name is W. Pura. I am here as a follow-up of our recent telephone conversation regarding your employment activities since your high school graduation. As explained on the telephone, I am trying to find out what the vocational and general diploma graduates are doing since they left school.

You have been randomly selected as one of the representatives of all the vocational and general diploma students who graduated from St. Joseph High School in June, 1968. I would like to ask you some questions about your employment and/or your educational activities since you graduated from high school. All of your answers will be kept completely confidential and will not be revealed to anyone.

PART A

1. Did you try to get a full-time job immediately upon graduation from high school?

_____ (a) Yes.

_____ (b) No.

2. Did you continue your education and/or training after graduation?

_____ (a) Yes, part time.

Institution _____

Course or Program _____

Duration _____

_____ (b) Yes, full time.

Institution _____

Course or Program _____

Duration _____

_____ (c) No. Other Activity _____

3. What are your employment and/or educational plans for the next three years?

Employment _____

Education _____

PART B

JOB HISTORY SINCE HIGH SCHOOL GRADUATION

(Start with the first job after leaving high school).

Job No. _____

1. _____ (a) Full-Time job (35 hours per week or more)

_____(b) Part-time job (____ hours per week)

2. When did you start the job? Month _____; Year _____

3. How did you find the job?

_____(a) Direct application.

_____(b) With the help of a friend or relative.

_____(c) With the help of a teacher.

_____(d) With the help of a guidance counsellor.

_____(e) By answering a newspaper advertisement.

_____(f) Through the Manpower office.

_____(g) None of the above. Explain _____

4. Name of employer: _____

Your initial job title: _____

Your initial job duties: _____

Your present job title: _____

Your present job duties: _____

If no longer with the same employer, state job title and duties at the time of leaving.

Job title: _____

Job duties: _____

PART B

5. Was the work on this job related to the high school program that you studied?

_____ (a) Yes. Specify course: _____

_____ (b) No.

6. Did you become an apprentice?

_____ (a) Yes. What trade? _____ When? _____

_____ (b) No. Explain: _____

7. If you left the job, what was the date of leaving?

Month _____ Year _____

What was the reason for leaving? _____

8. Were/Are you generally satisfied with the job?

_____ (a) Yes.

_____ (b) No. Explain: _____

9. Your gross earnings when you started the job:

_____ per week OR _____ per month OR _____ per year.

Your gross earnings if still on the same job:

_____ per week OR _____ per month OR _____ per year.

OR: Your gross earnings at the time you left the job:

_____ per week OR _____ per month OR _____ per year.

10. Did you take any further education and/or training while on the job?

_____ (a) Yes. Explain _____

_____ (b) No.

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